

SECTION 838 ENDWALLS

838-1 DESCRIPTION

Perform the work covered by this section including but not limited to excavation, hauling, disposal of materials, furnishing and placing backfill materials, subsurface drainage, concrete, brick masonry, mortar, grout, and furnishing and placing reinforcing steel to construct Portland cement concrete or brick masonry endwalls, either plain or reinforced, in accordance with the contract.

838-2 MATERIALS

Refer to Division 10:

Item	Section
Brick	1040-1
Curing Agents	1026
Mortar	1040-9
Precast Concrete Units	1077
Portland Cement Concrete, Class B	1000
Reinforcing Steel	1070-2
Select Material	1016
Stone, No 78M	1005
Subdrain Fine Aggregate	1044-1

Use Portland cement concrete, brick masonry or precast concrete for the endwall unless otherwise specified in the plans.

If precast sections are proposed, submit in writing for approval.

838-3 CONSTRUCTION METHODS.

(A) Foundation

Do not place concrete or masonry until the foundation is approved.

Excavate foundation to a firm surface, make level or stepped and clean surfaces of loose material. Make excavation true to lines and dimensions shown on plans.

Where the foundation material is found to be of poor supporting value or of rock, the Engineer may make minor adjustments in the location of the structure to provide a more suitable foundation. Where this is not practical, undercut the foundation and condition by backfilling with an approved select material.

(B) Concrete and Masonry

Construct concrete in accordance with Section 825 and give an ordinary surface finish. Construct brick masonry in accordance with Sections 830 and 832. Furnish and place reinforcing steel in accordance with Section 425.

Provide the class of concrete indicated in the plans.

Obtain approval if field conditions necessitate a variance from the plan dimensions of the structure and footings.

Construct endwalls on the end of a full joint of pipe and in accordance with the details in the plans.

Any endwall that incorporates an opening for circular pipe 54" or greater shall be reinforced.

Section 840

(C) Backfill

Complete endwall construction, and remove all forms. Backfill with approved material after the concrete or brick masonry has cured for at least 7 curing days unless otherwise permitted. A “curing day” is defined in Article 830-5. Within 4 calendar days after the completion of the 7 day curing period, shape, compact and complete backfill in accordance with the contract.

838-4 MEASUREMENT AND PAYMENT

Endwalls will be measured and paid in cubic yards of concrete or brick completed and accepted. This quantity will be computed from the dimensions shown in the plans or from revised authorized dimensions. Where precast concrete units have been approved and are used instead of cast-in-place units the quantity to be paid will be computed the same as if cast-in-place units were used, as no reduction in pay quantity will be made due to the use of precast instead of cast-in-place endwalls.

Reinforced Endwalls will be measured and paid in cubic yards of concrete or brick completed and accepted. This quantity will be computed from the dimensions shown in the plans or from revised authorized dimensions. Where precast concrete units have been approved and are used instead of cast-in-place units the quantity to be paid will be computed the same as if cast-in-place units were used, as no reduction in pay quantity will be made due to the use of precast instead of reinforced cast-in-place endwalls.

Payment will be made under:

Pay Item	Pay Unit
Endwalls	Cubic Yard
Reinforced Endwalls	Cubic Yard

SECTION 840

MINOR DRAINAGE STRUCTURES

840-1 DESCRIPTION

Perform the work covered by this section including, but not limited to, excavation; providing protection of employees in excavation; hauling; disposal of materials; removing existing pipe and drainage structures at the site of the work; furnishing, transporting and placing foundation conditioning material, backfill material, subsurface drainage, concrete, brick masonry, block masonry, precast units, mortar, grout, reinforcing steel, hardware, castings and miscellaneous metal; fabrication; welding; and galvanizing to construct cast-in-place concrete, brick masonry, block masonry or precast concrete inlets, catch basins, junction boxes, spring boxes, manholes, concrete aprons and other minor drainage structures excluding endwalls, with all necessary metal grates, covers, frames, steps and other hardware, in accordance with the contract.

Use cast-in place concrete, brick masonry, block masonry or precast concrete construction as shown on approved plans.

840-2 MATERIALS

Refer to Division 10.

Item	Section
Brick	1040-1
Concrete Block	1040-2
Curing Agents	1026
Fabricated Steel Grates	1074-9
Gray Iron Castings	1074-7
Joint Fillers	1028-1
Joint Sealers	1028-2